PROC. ENTOMOL. SOC. WASH.
111(2), 2009, pp. 527–529

MICROCHRYSA FLAVIVENTRIS (WIEDEMANN), A NEW IMMIGRANT SOLDIER FLY IN THE UNITED STATES (DIPTERA: STRATIOMYIDAE)

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Abstract.—*Microchrysa flaviventris* (Wiedemann) (Diptera: Stratiomyidae: Sarginae), a species widespread in the Old World, is reported from North America for the first time. Apparently it is established in the eastern United States. Specimens were taken in Alexandria, Virginia in August 2007.

Key Words: Sarginae, immigrant species, Virginia

The genus *Microchrysa* Loew contains 42 described species (Woodley 2001, Hauser 2008) and is known from all major biogeographic regions. Previously only two species were known to occur in America north of Mexico, *Microchrysa polita* (Linnaeus) and *M. flavicornis* (Meigen). Both of these species are also widespread in Europe, and larvae of both are scavengers, feeding on various types of decaying organic matter, especially dung (Rozkošný 1982). It is possible that they were introduced to North America via ship ballast, a common method of accidental introduction of insects to eastern North America (Lindroth 1957), at some early date, and became established and widespread.

While identifying recently collected Stratiomyidae in the collection of the National Museum of Natural History, Smithsonian Institution (USNM), I came across some specimens of a species of *Microchrysa* that were clearly neither of the species known from the United States. They turned out to be *Microchrysa flaviventris* (Wiedemann), which is here recorded from North America and the New World for the first time.

* Accepted by David R. Smith

RESULTS AND DISCUSSION

Microchrysa flaviventris (Wiedemann) (Figs. 1–2)

Sargus flaviventris Wiedemann, 1821: 31. For full synonymy, see Woodley (2001: 204–205).

Recognition.—Males (easily identified by their holoptic eyes) differ from both *M. flavicornis* and *M. polita* by having a predominantly yellow abdomen, with some metallic green coloration on the fifth tergite. The latter two species have the abdomen completely metallic green. In both sexes of *M. flaviventris*, the vein forming the anterior portion of the discal cell between crossvein r-m and the point where the free portion of M_1 originates is very faint. In both *M. flavicornis* and *M. polita*, this vein is well developed and distinctly visible. Also, the middle femur in *M. flaviventris* is wholly yellow, while it is marked with black to nearly wholly black in *M. flavicornis* and *M. polita*.

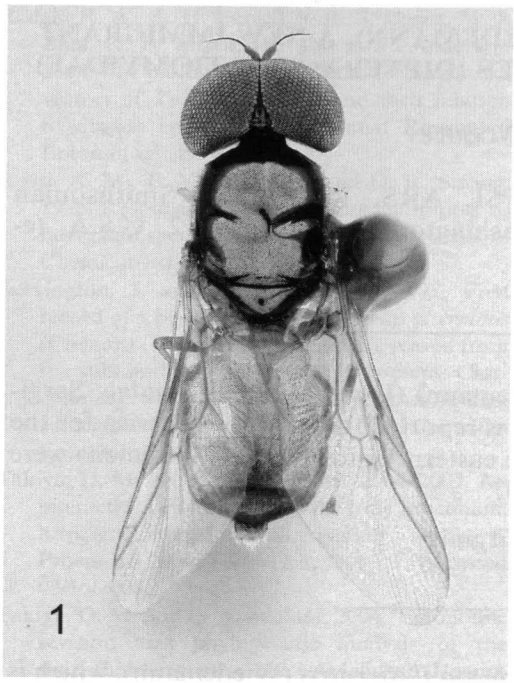

Fig. 1. *Microchrysa flaviventris*, dorsal habitus of male specimen from Alexandria, Virginia, USA.

Distribution.—*Microchrysa flaviventris* is distributed widely as follows: Palearctic Region: China, Japan, Russia. Afrotropical Region: Madagascar, Comoro Islands, Réunion, Seychelles. Oriental Region: India, Indonesia (Java, Pulau Simeulue, Sumatra), Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand. Australian Region: Belau, Guam, Indonesia (Irian Jaya), Micronesia, New Caledonia, Northern Marianas, Papua New Guinea (Bougainville Island, Papua New Guinea), Solomon Islands, Vanuatu. The records presented below are the first for North America and the New World.

Specimens examined.—3 ♂, USA: Virginia, Alexandria, 514 North Pickett Street, 38°49′10.9″N, 77°06′59.9″W, 1–20 August 2007, P. H. Arnaud, Jr., M. M. Arnaud, O. S. Flint, Jr., Malaise trap (USNM).

Remarks.—The specimens of *M. flaviventris* reported here fit the concept of the species as detailed by Nagatomi (1975). The male genitalia are exactly as illustrated by Nagatomi (1975: figs. 4A, 4B) for specimens from Japan.

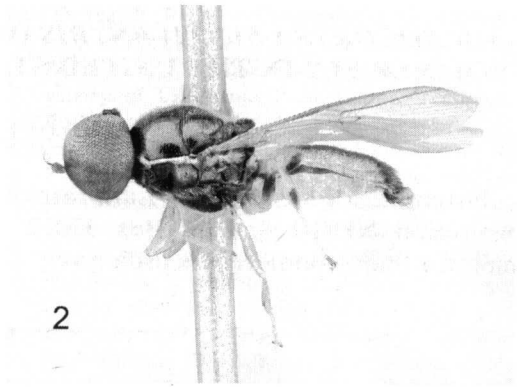

Fig. 2. *Microchrysa flaviventris*, left lateral view of male specimen from Alexandria, Virginia, USA.

It is not known from where *M. flaviventris* may have been introduced into the United States given the wide geographic range of the species. Considering the extensive commercial trade between the U.S. and China, Korea, and Japan, one of these countries would seem to be the most likely origin. It is likely that the species is established since specimens were collected a considerable distance away from commercial trading centers. Three other species of Stratiomyidae have been introduced into the U.S. and Canada relatively recently: *Inopus rubriceps* (Macquart) (Kessel 1948; California), *Chloromyia formosa* (Scopoli) (Pechuman 1974, Hoebeke and Pechuman 1982; New York), and *Exaireta spinigera* (Wiedemann) (Swann et al. 2006; British Columbia, possibly California). They are all apparently established but are expanding their ranges very slowly. If *M. flaviventris* does become widespread, its economic impact will likely be negligible.

Acknowledgments

I thank Charyn Micheli for preparing the habitus images using a Wild M-400 microscope and Microvision Archimed software. I also thank Owen Lonsdale

(Smithsonian Institution) and John Brown and Allen Norrbom (both of the Systematic Entomology Laboratory) for reviewing the manuscript.

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